

CLAIMS

What is claimed is:

1. A method of coding video, comprising the steps of:

encoding an uncoded video to generate extended base layer reference frames, each of the extended base layer reference frames including a base layer reference frame and at least a portion of an associated enhancement layer reference frame; and

generating frame residuals from the uncoded video and the extended base layer reference frames.
2. A method of coding video according to claim 1, further comprising the step of coding the frame residuals with a scalable codec selected from the group consisting of DCT based codecs or wavelet based codecs to generate enhancement layer frames.
3. A method of coding video according to claim 1, further comprising the step of coding the frame residuals with a fine granular scalable codec to generate fine granular scalable enhancement layer frames.
4. A method of coding video according to claim 1, wherein the frame residuals include B frame residuals.
5. A method of coding video according to claim 4, wherein the frame residual further include P frame residuals.

6. A method of coding video according to claim 1, wherein the frame residual include P frame residuals.

7. A method of decoding a compressed video having a base layer stream and an enhancement layer stream, the method comprising the steps of:

decoding the base layer and enhancement layer streams to generate extended base layer reference frames, each of the extended base layer reference frames including a base layer reference frame and at least a portion of an associated enhancement layer reference frame; and predicting frame residuals from the extended base layer reference frames.

8. A method of decoding video according to claim 7, further comprising the step of decoding the frame residuals with scalable decoding selected from the group consisting of DCT based decoding or wavelet based decoding.

9. A method of decoding video according to claim 8, further comprising the steps of: generating enhancement layer frames from the frame residuals; and generating an enhanced video from the base layer frames and the enhancement layer frames.

10. A method of decoding video according to claim 7, wherein the frame residuals include B frame residuals.

11. A method of decoding video according to claim 10, wherein the frame residuals further

include P frame residuals.

12. A method of decoding video according to claim 7, wherein the frame residuals include P-frame residuals.

13. A memory medium for coding video, the memory medium comprising:

code for encoding an uncoded video to generate extended base layer reference frames, each of the extended base layer reference frames including a base layer reference frame and at least a portion of an associated enhancement layer reference frame; and

code for predicting frame residuals from the uncoded video and the extended base layer reference frames.

14. A memory medium for coding video according to claim 13, further comprising code for scalable encoding the frame residuals.

15. A memory medium for coding video according to claim 13, further comprising code for fine granular scalable encoding the frame residuals.

16. A memory medium for coding video according to claim 13, wherein the frame residuals include B frame residuals.

17. A memory medium for coding video according to claim 16, wherein the frame residuals further include P frame residuals.

18. A memory medium for coding video according to claim 13, wherein the frame residuals include P frame residuals.

19. A memory medium for decoding a compressed video having a base layer stream and an enhancement layer stream, the memory medium comprising:

code for decoding the base layer and enhancement layer streams to generate extended base layer reference frames, each of the extended base layer reference frames including a base layer reference frame and at least a portion of an associated enhancement layer reference frame; and

code for predicting frame residuals from the extended base layer reference frames.

20. A memory medium for decoding a compressed video according to claim 19, further comprising code for scalable decoding the frame residuals, the code for scalable decoding selected from the group consisting of DCT based code or wavelet based code.

21. A memory medium for decoding a compressed video according to claim 20, further comprising:

code for generating enhancement layer frames from the frame residuals; and

code for generating an enhanced video from the base layer frames and the enhancement layer frames.

22. A memory medium for decoding a compressed video according to claim 19, wherein the

frame residuals include B frame residuals.

23. A memory medium for decoding a compressed video according to claim 22, wherein the frame residuals further include P frame residuals.

24. A memory medium for decoding a compressed video according to claim 19, wherein the frame residuals include P frame residuals.

25. An apparatus for coding video, the apparatus comprising:

means for encoding an uncoded video to generate extended base layer reference frames, each of the extended base layer reference frames including a base layer reference frame and at least a portion of an associated enhancement layer reference frame; and

means for predicting frame residuals from the uncoded video and the extended base layer reference frames.

26. An apparatus for coding video according to claim 25, further comprising means for scalable encoding the frame residuals.

27. An apparatus for coding video according to claim 25, further comprising code for fine granular scalable encoding the frame residuals.

28. An apparatus for coding video according to claim 25, wherein the frame residuals include B frame residuals.

29. An apparatus for coding video according to claim 28, wherein the frame residuals further include P frame residuals.

30. An apparatus for coding video according to claim 25, wherein the frame residuals include P frame residuals.

31. An apparatus for decoding a compressed video having a base layer stream and an enhancement layer stream, the apparatus comprising:

means for decoding the base layer and enhancement layer streams to generate extended base layer reference frames, each of the extended base layer reference frames including a base layer reference frame and at least a portion of an associated enhancement layer reference frame; and

means for predicting frame residuals from the extended base layer reference frames.

32. An apparatus for decoding a compressed video according to claim 31, further comprising scalable decoding means for decoding the frame residuals, the scalable decoding means selected from the group consisting of DCT based decoding means or wavelet based decoding means.

33. An apparatus for decoding a compressed video according to claim 32, further comprising:
 means for generating enhancement layer frames from the frame residuals; and
 means for generating an enhanced video from the base layer frames and the enhancement layer frames.

34. An apparatus for decoding a compressed video according to claim 31, wherein the frame residuals include B frame residuals.
35. An apparatus for decoding a compressed video according to claim 34, wherein the frame residuals further include P frame residuals.
36. An apparatus for decoding a compressed video according to claim 31, wherein the frame residuals include P frame residuals.

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